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APPENDIX FOUR
1999 Inventory Methodology

Appendix 4-1 - Redesignation Inventories – Updates through February 2003

The 1-hr ozone attainment redesignation process requires 1990, 1999, 2007 and 2012 or 2013 emission inventories for nitrogen oxides (NOx) and volatile organic compounds (VOC) for a ten county area. The ten county area is comprised of Door, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties. Emissions from these ten counties are partitioned into five geographic areas: a six county area comprised of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha; Door county; Kewaunee county; Manitowoc county; and Sheboygan county. *A new 2013 maintenance inventory has been crafted for Manitowoc and Door Counties to accommodate US-EPA comment that a full ten year span needs to be assessed for the newly redesignated areas.*

1. Organization of the Inventories

To enable the ease, accuracy of calculation and analysis, ozone precursor inventories are traditionally divided into sectors according to the nature of the source activity. Traditionally, ozone precursor inventories are divided as follows:

Point Sources: Point sources are industrial or commercial facilities which are normally located in permanent locations, and which emit air pollutants in great enough quantities to warrant individual quantification. The 1990 point source emission inventory is limited to sources emitting more than 10 tons/year of any single criteria pollutant or 25 tons/year of any combination of criteria pollutants. To better enable detailed control evaluations, the 1999 point source emission inventory includes as many sources as possible (i.e. every source that reported nitrogen oxides (NOx) or volatile organic compounds emissions (VOC).) to the 1999 Wisconsin point source emission inventory) regardless of the magnitude of reported emissions.

Area Sources: The area source inventories enable an agency to estimate emissions collectively for those sources that are too small and/or too numerous to be tracked individually in the point source inventory. The area sources includes commercial/institutional, industrial and residential sources.

Non-Road Mobile Sources: This sector of the emission inventories includes emissions from motorized equipment and other small and large engines whose primary function is not for use on public roadways.

Highway Mobile Sources: This sector of the inventories includes emissions stemming from the operation of vehicles designed primarily for highway use, such as cars, trucks, buses and road motorcycles.

2. Overview of the Inventories

All emission inventories are divided into five geographic areas: Door county, Kewaunee county, Manitowoc county, Sheboygan county and a six county area composed of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties. The redesignation emission inventories contain NOx and VOC emissions only. All emissions are reported in tons of pollutant per average ozone season day with the exception of the highway mobile sector that uses a hot summer weekday. The ozone season is defined as the months of June, July and August.

1990 Emission Inventory: This emission inventory is based on the 1990 Periodic Emission Inventory. Selected area source categories emissions have been improved by updating emission factors, activity data, seasonal adjustment factors using the 1999 Redesignation Emission Inventory depending on the relative significance of the category's emissions and the resources needed to update a category (See **Table 1**). Highway mobile source emissions have been recalculated using the most current data. Most of the non-road emissions from a U.S. EPA non-

road inventory have been reapportioned to the counties using a method approved after the submission of the 1990 Periodic Emission Inventory.

1999 Redesignation Emission Inventory: This emission inventory has been created using reported point source emissions, EPA's Acid Rain Program point source emissions and approved EPA techniques for emissions calculation. Whenever feasible, federal, state and local controls are factored into the emissions calculations. This inventory is used as the base year emission inventory for the 2007 and 2012 projected emission inventory.

2007 and 2012 Projected Emission Inventories: These two emission inventories are projected from the 1999 Redesignation Emission Inventory using a variety of growth factors and control factors. Sources for growth factors include point source emission trends, Economic Growth Analysis System (EGAS), linear miles of road, vehicle miles traveled (VMT), population, gasoline sales, employment and others. Sources of control factors include *Chapter NR 428: Control of Nitrogen Compound Emissions* in the *Wisconsin Administrative Code*, Federal Non-road engine standards, "Phase 2" reformulated gasoline, "Tier 2" standards for new automobiles and light trucks, low sulfur gasoline requirements and others.

3. Calculation of 1990 Emission Inventory

This section briefly describes how the 1990 Emission Inventory was developed through collection, reduction and calculation of activity and emission factor data. Except for motor vehicle emissions, all category emissions were first calculated on an annual basis, then adjusted temporally to reflect average ozone season day emissions by incorporating quarterly throughputs and operating schedules. Control efficiencies coupled with a default rule effectiveness (RE) of 80% were incorporated into the resultant emissions. More detailed information concerning methodologies can be gathered from Wisconsin's 1990 Base Year Inventory Document Report. Updating of some of the area source categories has been performed based on the 1999 Redesignation Emission Inventory. With the exceptions of locomotive, commercial marine, recreational marine and aircraft categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) has been reapportioned.

3.1 Point Sources

Emissions were estimated by collecting process-level information from each facility that qualifies for inclusion into a state's point source database. In Wisconsin, this information is normally collected via a computer diskette submittal, and subsequently uploaded into the point source database. Process, boiler, fugitive and tank emissions were typically calculated using throughput information, multiplied by an emission factor for that process. Emission factor sources included mass balance, stack testing, continuous emissions monitors, engineering judgment and U.S. EPA's AP-42 documented collection of emission factors.

3.2 Area Sources

Area source emission estimates were typically calculated using county-level estimates of population, gasoline consumption, employment or other related commercial/institutional, industrial or residential related surrogates. For the appropriate categories (e.g. industrial fuel combustion), to avoid double counting, point source employment was subtracted from county level employment prior to multiplication with emission factors. Emission factors were derived from local or national surveys, or U.S. EPA procedural guidance for the development of emission inventories. Some categories of area sources have been improved by updating emission factors, activity data, seasonal adjustment factors using the 1999 Redesignation Emission Inventory depending on the relative significance of the category's emissions and the resources needed to update a category (See **Table 1**).

3.3 Non-Road Mobile Sources

The contribution of non-road equipment to the emission inventories was determined by a combination of equipment population, the average engine load factor, the annual hours of use, the horse power rating, as well as the emission factor attributable to each engine. The majority of this sector was provided to states by U.S. EPA in July 1992. Equipment types provided include: lawn & garden, airport service, recreational, light commercial, industrial, construction, agricultural and logging equipment. Locomotive, aircraft, commercial and recreational marine emissions were calculated by Wisconsin staff using U.S. EPA emission inventory guidance, along with activity data collected at the state level. With the exceptions of aircraft, commercial marine, locomotive and recreational marine categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) has been reapportioned to the county level using an U.S.EPA approved method developed by Energy and Environmental Analysis, Inc..

3.4 Highway Mobile Sources

Emissions were estimated for each of the five geographic areas using vehicle-miles of travel (VMT) as the activity factor and emission factors from the U.S. EPA's MOBILE6 model.

3.4.1 Vehicle-Miles of Travel (and Average Speeds)

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) provided the estimated 1990 summer weekday VMT for the six-county area (Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha Counties), as well as summer weekday VMTs for the other three inventory years (1999, 2007 and 2012). SEWRPC distributed the VMT for each of the four years into 26 classes: 12 speed ranges for travel on standard arterials, 12 speed ranges for travel on freeways, and 2 areas (urban and rural) for travel on non-arterial roadways.

The 1990 VMT for each of the four northern counties (Door, Kewaunee, Manitowoc and Sheboygan Counties) was "backcasted" by the Wisconsin Department of Natural Resources (WDNR) from 1995 and 1999 Highway Performance Monitoring System (HPMS) VMTs for an annual average day provided by the Wisconsin Department of Transportation (WDOT). The VMTs provided by WDOT had been separated into the 12 HPMS functional classes. The "backcasted" 1990 annual average day VMTs were then converted to 1990 summer weekday VMTs using adjustment factors provided by WDOT. WDOT provided WDNR updated average speed estimates for light-duty vehicles, light-duty trucks and heavy-duty trucks for each of the 12 classes on September 23, 2002. These 36 average speeds were used for all four inventory years.

3.4.2 Emission Factors

Separate MOBILE6 emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the four northern counties.

The allocation of VMT to the four sets of driving cycles in MOBILE6 was consistent with U.S. EPA technical guidance (Technical Guidance on the Use of MOBILE6 for Emission Inventory Preparation, January, 2002), and was done as follows for all four inventory years:

Freeway Driving Cycles: The roadways assumed to be subject to the MOBILE6 "freeway driving cycles" were: (1) those classified as "Freeway" for the six-county area and (2) those belonging to the following four HPMS functional classes for the four northern counties: "Rural - Interstate", "Rural - Other Principal Arterial", "Urban - Interstate", and "Urban - Other Freeway and Expressway". As suggested in the U.S. EPA technical

guidance, 92% of the VMT on these roadways was modeled at the “freeway driving cycles”.

Freeway Ramp Driving Cycle: As suggested in the U.S. EPA technical guidance, 8% of the VMT on roadways subject to the MOBILE6 “freeway driving cycles” was modeled at the MOBILE6 “freeway ramp driving cycle” at the average speed assumed by MOBILE6 (34.6 mph). For the six-county area, the “freeway ramp” VMT was selected from the speed ranges in such a way that the average speed of that VMT was 34.6 mph. For the four northern counties, the average speed for the non-ramp activity VMT on the “Rural - Other Principal Arterial” class was adjusted to account for the speed of 34.6 mph for the 8% of the VMT modeled at the “freeway ramp driving cycle”. No other speed adjustments for the four northern counties were deemed necessary, based on discussions with WDOT.

Local Roadway Driving Cycle: The roadways assumed to be subject to the “local roadway driving cycle” were “Non-Arterial - Urban” roadways for the six-county area and the roadways belonging to the “Urban - Local” HPMS functional class for the four northern counties. All of the VMT on these roadways was modeled at the “local roadway driving cycle”. MOBILE6 assumes that the average speed for this driving cycle is 12.9 mph.

Arterial/Collector Driving Cycles: All of the VMT on the remaining facilities (“Standard Arterial” for the six-county area and the remaining seven HPMS functional classes for the four northern counties) was modeled at the MOBILE6 “arterial/collector driving cycles”.

For each of the four inventory years, WDNR converted local distributions of VMT by the eight MOBILE5 vehicle types to the 16 combined MOBILE6 vehicle types, following the procedures in the above-cited U.S. EPA technical guidance for MOBILE6. The local eight-vehicle-type distributions were based on: (1) those provided in SEWRPC’s Memorandum Report Number 125 (conformity assessment document), December, 1997, page 25b, and (2) estimated 1999 and projected 2007 and 2012 vehicle type distributions provided by WDOT on September 3 and 10, 2002. Where necessary, distribution values were “backcasted” or projected based on data from WDOT annual Vehicle Classification Data reports or by the projected default distributions in MOBILE6. To account for the increasing trend in light-duty truck sales, the distributions for 1999, 2007 and 2012 had proportional splits between cars and light-trucks that were estimated and projected based on data from Wisconsin’s inspection and maintenance (I/M) program (total vehicles tested by vehicle type and model year).

Also, for each of the four inventory years, local distributions of registrations by vehicle age were used for the light-duty vehicle types (LDGV, LDGT1 and LDGT2 in MOBILE5 terminology). These distributions were estimated and projected from Wisconsin I/M program data (total vehicles tested by vehicle type and model year). For the heavy-duty vehicle types and motorcycles, the MOBILE6 default registration distributions were used.

A “basic” inspection and maintenance (I/M) program, with tampering inspections, was modeled for the six-county area. Conventional gasoline with a Reid Vapor Pressure (RVP) of 10.3 psi was modeled for all 10 counties, with a one psi RVP waiver for alcohol blends. (4.0% of the gasoline market share was assumed to be alcohol blends, based on data from the Wisconsin Energy Bureau, Department of Administration.)

Local meteorological inputs (daily minimum and maximum temperatures and absolute humidity) were based on the 10 highest ozone days during the three year period of 1988-1990; and were calculated in accordance with the procedures in the above-cited U.S. EPA technical guidance for MOBILE6. The same inputs were used for all four inventory years.

Detailed data for the highway mobile sector modeling for all four inventory years are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone 608/266-5542, e-mail: christopher.bovee@dnr.state.wi.us)

4. Calculation of 1999 Redesignation Emission Inventory

This section describes the development of the 1999 Emission Inventory through collection, reduction and calculation of activity and emission factor data. Except for motor vehicle emissions, all category emissions are first calculated on an annual basis, then adjusted temporally to reflect average ozone season day emissions by incorporating quarterly throughputs and operating schedules. Many of the methods used are identical to those employed in the generation of the 1990 Emission Inventory.

4.1 Point Sources

Emissions are estimated by collecting process-level information from all facilities reported to the Wisconsin point source inventory regardless of the quantities of reported emissions. In Wisconsin, this information is normally collected via a computer diskette submittal, and subsequently uploaded into the point source database. Emission generating processes' emissions are typically calculated using throughput information, multiplied by an emission factor for that process. Emission factor sources include mass balance, stack testing, continuous emissions monitors, engineering judgment and U.S. EPA's Factor Information Retrieval (FIRE) Data System which incorporates U.S. EPA's AP-42 documented collection of emission factors. Emissions reported to U.S. EPA's Acid Rain Program take precedence over any emissions reported to or calculated from data directly submitted to Wisconsin's point source emission inventory. Unlike the 1990 Emission Inventory, portable sources such as asphalt plants and rock crushers are treated as area sources.

4.2 Area Sources

As with the 1990 Emission Inventory, area source emission estimates are typically calculated using county-level estimates of population, gasoline consumption, employment or other related commercial/institutional, industrial and residential surrogates. For the appropriate categories (e.g. industrial fuel combustion), to avoid double counting, point source employment is subtracted from county level employment prior to multiplication with emission factors. Emission factors are derived from local or national surveys, or U.S. EPA procedural guidance for the development of emission inventories.

4.2.1 Area Sources Estimation Methodologies

Besides changes in some of the values of fundamental parameters used in estimating emissions from some area source categories (e.g. emission factors and seasonal adjustment factors) that have been reconciled between the 1990 Emission Inventory and 1999 Redesignation Emission Inventory, some 1999 area source categories use different methodologies. When compared to the 1990 Emission Inventory, area source categories using different methodologies include:

- dry cleaning
- fuel combustion – residential
- gasoline storage and transport – gasoline tank trucks
- gasoline storage and transport – stage 1
- gasoline storage and transport – underground tank breathing
- gasoline storage and transport – stage 2
- municipal solid waste landfills (MSWLs)
- pesticide application

- publicly owned treatment works (POTWs)
- surface coating – automobile refinishing
- surface coating – factory finished wood
- hazardous waste treatment, storage and disposal facilities (TSDFs)

4.2.2 Area Source Controls

Area source controls are implemented for ten different area source categories. The ten controlled area source categories are commercial and consumer solvents, degreasing, gasoline storage and transport – stage 1, gasoline storage and transport – stage 2, gasoline storage and transport – underground tank breathing, municipal solid waste landfills (MSWLs), surface coating – architectural coatings, surface coating – automobile refinishing, surface coating – traffic markings and surface coating – wood furniture (see **Table 2**).

4.3 Non-Road Mobile Sources

With the exceptions of aircraft, commercial marine and locomotive categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) are grown and controlled from the 1990 Emission Inventory using growth factors derived from projected equipment populations in the NONROAD model and control factors based the Federal non-road engine standards from the Lorang memorandum (See **Table 3**). Aircraft emissions are estimated using the Federal Aviation Administration's Emissions and Dispersion Modeling System (EDMS) version 4.01. Commercial marine emissions are estimated using the same methods detailed in Wisconsin's 1990 Base Year Inventory Document Report. Locomotive emissions are estimated using railroad length, frequency of travel and fuel consumed.

4.4 Highway Mobile Sources

As in the 1990 Estimated Emission Inventory, 1999 emissions were estimated for each of the five geographic areas using VMT as the activity factor and emission factors from the MOBILE6 model.

4.4.1 Vehicle-Miles of Travel

Estimated 1999 summer weekday VMT for the six-county area was provided by SEWRPC, distributed into 26 classes. Estimated 1999 annual average day VMTs for the four northern counties were provided by WDOT. DOT had separated the VMTs into the 12 HPMS functional classes for each of the four counties. WDNR then adjusted these VMTs to summer weekday, using the same WDOT-provided adjustment factors used for the year 1990. Summer weekday VMT growth from the 1990 inventory to the 1999 inventory was 19% for the six-county area, 27% for Sheboygan County, 26% for Manitowoc County, 29% for Kewaunee County and 27% for Door County.

4.4.2 Emission Factors

As in the 1990 Estimated Emissions Inventory, separate MOBILE6 emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the four northern counties. Also, as in the 1990 Inventory and as described in section 3.4.2:

- (1) VMT was allocated to the four sets of driving cycles in MOBILE6 in accordance with U.S. EPA guidance;
- (2) Local data were used for the distribution of VMT by vehicle types; and
- (3) Local data were used for the distribution of registrations by vehicle age for the light-duty vehicle types.

An enhanced I/M program was modeled for the six-county area and Sheboygan County. Only HC and CO cutpoints were modeled, since the program did not start pass/fail testing for NO_x until May of 2001. Phase 1 reformulated gasoline was modeled for the six-county area. Conventional gasoline with an RVP of 8.8 psi was modeled for the four northern counties, with a one psi RVP waiver modeled for alcohol blends. (4.2% of the gasoline market share was assumed to be alcohol blends, based on data from the Wisconsin Energy Bureau, Department of Administration.)

As in the 1990 Inventory, local meteorological inputs (daily minimum and maximum temperatures and absolute humidity) were based on the 10 highest ozone days during the three year period of 1988-1990; and were calculated in accordance with the procedures in the U.S. EPA technical guidance for MOBILE6.

Detailed data for the highway mobile sector modeling for all four inventory years are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone 608/266-5542, e-mail: christopher.bovee@dnr.state.wi.us)

5. Calculation of 2007 and 2012/13 Projected Emission Inventories

The 2007 and 2012/13 Projected Emission Inventories are forecast from the 1999 Redesignation Emission Inventory. The sources for the growth and controls factors for 2007 and 2012/13 are the same. *Because of the delayed submittal, additional maintenance inventories had to be crafted for 2013 for Door and Manitowoc Counties in order to cover a full ten year span. The growth approach remains consistent with that used for the primary 2012 inventories.*

5.1 Point Sources

The point source processes have been divided into electric generating unit (EGU) processes and non-electric generating unit (non-EGU) processes to calculate growth factors and control factors. Non-EGU processes have been further subdivided into fourteen groups to calculate growth factors defined by source classification codes (SCC) (See **Table 4**).

5.1.1 Point Source Growth

A point source growth factor of 1.8% per year is used for EGU processes. Growth factors for combustion, non-EGU processes in the fourteen groups are calculated by Economic Growth Analysis System (EGAS). Growth factors for non-combustion, non-EGU processes in the fourteen groups are calculated by using uncontrolled point source emissions trends between 1996 and 2000 for non-combustion processes in the fourteen groups (See **Tables 5 and 6**).

5.1.2 Point Source Controls

No future VOC controls are used. NO_x controls are limited to those created by *Chapter NR 428: Control of Nitrogen Compound Emissions* in the *Wisconsin Administrative Code*. These controls are projected to impact forty-six units: seventeen electric utility boilers and twenty-nine other units (See **Table 7**). The NO_x controls should be fully implemented by 2007. Consequently, the NO_x control factors for 2007 and 2012/13 are identical. In some cases, the control factors are larger than one as a result of the 1999 NO_x emission rate being lower than the required emission rate in 2007 and 2012.

5.2 Area Sources

Growth factors for area sources are based on EGAS, gasoline sales, employment, linear miles of road, population, vehicle miles traveled and others. Forest wildfires and structure fires emissions are assumed to have no growth based on their unpredictable nature. On-site incineration emissions have been essentially eliminated due to the application of rules in *Chapter NR 445*:

Control of Hazardous Pollutants of the Wisconsin Administrative Code. Consequently, no growth is anticipated. Open burning emissions are flatlined assuming conservatively that state, local and municipal burning ordinances will not become less restrictive in the future. Similarly, pesticide application is assumed to have no growth due to the continued general trend of urbanization in the ten county area. Emissions from railroad surface coating and industrial wastewater treatment facilities are assumed to be stable.

Conservatively, future controls are limited to stage 2 VOC controls. These growth factors and control factors are summarized in **Table 8**.

5.3 Non-Road Mobile Sources

For most categories, the same sources of growth factors and control factors are used as for the 1999 Redesignation Emission Inventory. With the exceptions of aircraft, commercial marine and locomotive categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) are grown and controlled from the 1990 Emission Inventory using growth factors derived from projected equipment populations in the NONROAD model and control factors based the Federal non-road engine standards from the Lorang memorandum (See **Table 3**). Emissions from aircraft and locomotive categories are grown using EGAS (See **Table 9**). Commercial marine emissions are assumed stable. No future controls are used for these three non-road categories.

5.4 Highway Mobile Sources

As in the inventories for 1990 and 1999, the projected 2007 and 2012/13 emissions were estimated for each of the five geographic areas using VMT as the activity factor and emission factors from the MOBILE6 model.

5.4.1 Vehicle-Miles of Travel

Projected 2007 and 2012 summer weekday VMTs were provided by SEWRPC, disaggregated into 26 classes. Projected 2007 and 2012 annual average day VMTs for the four northern counties were provided by WDOT. DOT had separated the VMTs into the 12 HPMS functional classes for each of the four counties. WDNR then adjusted these VMTs to summer weekday, using the same WDOT-provided adjustment factors used for the years 1990 and 1999. Projected summer weekday VMT growth from 1999 to 2007 was 15% for the six-county area, 16% for Sheboygan County, 18% for Manitowoc County, 10% for Kewaunee County and 12% for Door County. And, projected summer weekday VMT growth from 2007 to 2012 was 6% for the six-county area, 8% for Sheboygan County, 6% for Manitowoc County, 8% for Kewaunee County and 5% for Door County. Finally, the projected 2013 summer weekday VMTs for Manitowoc and Door Counties were linearly grown from the 2007 and 2012 summer weekday VMTs for these two counties, resulting in a 2012 to 2013 summer weekday VMT growth of about 1% for each of these two counties.

5.4.2 Emission Factors

As in the 1990 and 1999 Inventories, separate MOBILE6 emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the four northern counties. Also, as in the 1990 and 1999 Inventories and as described in section 3.4.2:

- (1) VMT was allocated to the four sets of driving cycles in MOBILE6 in accordance with U.S. EPA guidance;
- (2) Local data were used for the distribution of VMT by vehicle types; and
- (3) Local data were used for the distribution of registrations by vehicle age for the light-duty vehicle types.

An enhanced I/M program was modeled for the six-county area and Sheboygan County. Cutpoints were modeled for all three pollutants (HC, CO and NOx). On-board diagnostic system (OBD) tests were assumed for light-duty vehicles and light-duty trucks of model years 1996 and newer. Phase 2 reformulated gasoline was modeled for the six-county area. Conventional gasoline with an RVP of 8.8 psi was modeled for the four northern counties, with a one psi RVP waiver modeled for alcohol blends. (15% of the gasoline market share was assumed to be alcohol blends.)

As in the 1990 and 1999 Inventories, local meteorological inputs (daily minimum and maximum temperatures and absolute humidity) were based on the 10 highest ozone days during the three year period of 1988-1990; and were calculated in accordance with the procedures in the U.S. EPA technical guidance for MOBILE6.

For the six-county area, the projections were increased by a buffer equal to the smaller of 7.5% or the highway mobile source emission level used to demonstrate attainment of the one-hour ozone standard in Wisconsin's December, 2000, attainment demonstration submittal to U.S. EPA. And, for the four northern counties, the projections were increased by a buffer equal to the smaller of 15.0% or, again, the highway mobile source emission level in the December, 2000, attainment demonstration. These buffers were incorporated to minimize the prospect of a transportation conformity failure should unanticipated events lead to additional emissions beyond those projected here. Higher buffers were provided for the four northern counties to account for the increased variability of single-county VMT estimates. The resulting buffers for the six-county area were 6.1% for VOC in 2007, 3.0% for NOx in 2007, and 7.5% for both pollutants in 2012. (The 2007 buffers were capped by the attainment demonstration levels.) And, the resulting buffers for the four northern counties were 15.0% for all cases, except for 2007 NOx in Sheboygan County, which was capped at 13.8% by the level in the attainment demonstration.

Detailed data for the highway mobile sector modeling for all four inventory years are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone 608/266-5542, e-mail: christopher.bovee@dnr.state.wi.us)

6. Emissions Summaries

Point source emissions are summarized in **Table 10** and **Table 11**. Area source NOx emissions are summarized in **Table 12**. Area source VOC emissions are summarized in **Table 13**. Non-road emissions are summarized in **Table 14**. All emissions are summarized by geographic area, year and source sector in **Table 15**.

7. *References*

1. Methodology to Calculate Nonroad Emission Inventories at the County and Sub-County Level: Final report, Energy and Environmental Analysis, Inc., Arlington, VA, July 1992 (Prepared for U.S. EPA).

Table 1: 1990 Area Source Categories Updated using the 1999 Redesignation Emission Inventory

Area Source Category	SCC	Pollutant	
		NOx	VOC
Aircraft refueling	2275900000	N	Y
Asphalt plants	2306010000	Y	Y
Bakeries	2302050000	N	Y
Commercial and consumer solvents	2460000000	N	Y
Fuel combustion - commercial/institutional	2103002000, 2103004000, 2103011000, 2103007000, 2103006000, 2103005000 and 2103008000	Y	Y
Fuel combustion - industrial	2102002000, 2102004000, 2102007000, 2102006000, 2102005000 and 2102008000	Y	Y
Fuel combustion - residential	2104001000, 2104004000, 2104011000, 2104007000, 2104006000 and 2104008000	Y	Y
Open burning - land clearing	2610000500	Y	Y
Open burning - residential MSW	2610030000	Y	Y
Open burning - yard waste - brush species unspecified	2610000400	Y	Y
Open burning - yard waste - leaf species unspecified	2610000100	Y	Y
Rock crushers	2305000000	N	Y
Structure fires	2810030000	Y	Y
Surface coating - architectural coatings	2401001000	N	Y
Surface coating - automobile refinishing	2401005000	N	Y
Surface coating - traffic markings	2401008000	N	Y

Table 2: 1999 Area Source Controls: Control Efficiency (CE), Rule Effectiveness (RE), Rule Penetration (RP) and Emission Reduction Summary

Category	SCC	CE	RE	RP	Emission reduction	Comments
Commercial and consumer solvents	2460000000				20%	Federal rule applies statewide. 9% VOC ROP Plan references a 3/22/95 guidance memorandum issued by OAQPS that specifies a 20% reduction.
Degreasing	2415000000				30%	From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.
Gasoline storage and transport - stage 1	2501060050	97.39%	80%	100%		Cntl. Eff. Calculated using vapor balance filling ef and the splash underground tank ef in Preferred and Alternative Methods for Estimating Air Emissions from Area Sources, Volume III, Chapter 11, Gasoline Marketing (Stage I and Stage II), January 2001.
Gasoline storage and transport - stage 2	2501060100					All three components are combined into emission factors.
Gasoline storage and transport - underground tank breathing	2501060201	100%	80%	95%		CE, RE and RP are from the 15% plan.
Municipal solid waste landfills	2620030000	If flares are used, 98%				Capture and control efficiencies at facility level. If flares are used, capture efficiency is 75%.
Surface coating - architectural coatings	2401001000				20%	Federal rule applies statewide. 9% VOC ROP Plan references OAR policy and guidance memorandum
Surface coating - automobile refinishing	2401005000	67.4%	100%	98%		From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.
Surface coating - traffic markings	2401008000	75.9%	100%	100%		9 – county AIM control (NR 422.17). Extended to Door county by contract.
Surface coating - wood furniture	2401020000	20.0%	100%	100%		From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.

Table 3: 1999, 2007 and 2012 Non-Road Growth Factors based on the NONROAD model

Non-road group	SCC	1999 GF	2007 GF	2012 GF
2-Stroke Recreational Vehicles	2260001000	1.0738229	1.1394432	1.180456
2-Stroke Construction Equipment	2260002000	1.0246531	1.046567	1.0602632
2-Stroke Industrial Equipment	2260003000	0.7112883	0.4546556	0.2942602
2-Stroke Lawn & Garden Equipment	2260004000	1.2515957	1.4752364	1.6150118
2-Stroke Farm Equipment	2260005000	1.1844674	1.3484383	1.4509202
2-Stroke Light Commercial	2260006000	1.4781692	1.9032086	2.1688581
2-Stroke Logging Equipment	2260007000	1.6163168	2.1641539	2.5065521
2-Stroke Airport Service Equipment	2260008000	1.1194933	1.2257096	1.2920948
2-Stroke Underground Mining Equipment	2260009000	1.2475858	1.4676622	1.6052099
4-Stroke Recreational Vehicles	2265001000	1.0738229	1.1394432	1.180456
4-Stroke Construction Equipment	2265002000	1.0246531	1.046567	1.0602632
4-Stroke Industrial Equipment	2265003000	0.7112883	0.4546556	0.2942602
4-Stroke Lawn & Garden Equipment	2265004000	1.2515957	1.4752364	1.6150118
4-Stroke Farm Equipment	2265005000	1.1844674	1.3484383	1.4509202
4-Stroke Light Commercial	2265006000	1.4781692	1.9032086	2.1688581
4-Stroke Logging Equipment	2265007000	1.6163168	2.1641539	2.5065521
4-Stroke Airport Service Equipment	2265008000	1.1194933	1.2257096	1.2920948
4-Stroke Underground Mining Equipment	2265009000	1.2475858	1.4676622	1.6052099
Diesel Recreational Vehicles	2270001000	1.3840722	1.7254697	1.9388431
Diesel Construction Equipment	2270002000	1.3580211	1.676262	1.8751626
Diesel Industrial Equipment	2270003000	1.3927244	1.7418127	1.9599929
Diesel Lawn & Garden Equipment Lawn mowers	2270004000	2.1033936	3.0841879	3.6971843
Diesel Farm Equipment	2270005000	1.3112378	1.5878937	1.7608036
Diesel Light Commercial	2270006000	1.5662491	2.0695817	2.3841645
Diesel Logging Equipment	2270007000	0.9277121	0.8634561	0.8232962
Diesel Airport Service Equipment	2270008000	2.0578446	2.998151	3.5858424
Diesel Underground Mining Equipment	2270009000	1.2475858	1.4676622	1.6052099
2-Stroke Recreational Marine	2282005000	1.0738229	1.1394432	1.180456
4-Stroke Recreational Marine	2282010000	1.0738229	1.1394432	1.180456
Diesel Recreational Marine	2282020000	1.3840722	1.7254697	1.9388431

Table 4: Non-EGU Point Source Groups for Calculating Growth Factors

Point source groups	Source Classification Codes
Boilers/Engines	10100101- 28888803
Chemical manufacturing	30100101 - 30199999, not 30190001 - 99 (see "In process fuel").
Food and agriculture	30200101 - 30299999, not 30290001 - 30291001(see "In process fuel").
Primary metals	30300001 - 30399999, not 30390001 - 24 (see "In process fuel").
Secondary metals	30400101 - 30499999, not 30400406 – 7 and 30490001 - 35 (see "In process fuel").
Mineral products	30500101 - 30599999, not 30500206 - 10, 30505020 – 3 and 30590001 - 23 (see "In process fuel").
In process fuel	39000189 - 39092056, 30190001 - 99, 30290001 - 30291001, 30390001 - 24, 30400406 - 7, 30490001 - 35, 30500206 - 10, 30505020 - 3, 30590001 – 23, 30600101 - 11, 30600901 - 5, 30609901 - 5, 30790001 - 23, 30890001 - 23, 30990001 - 23, 31000401 - 14, 31390001 - 3, 39900501 - 601, 39901001 - 39990023, 40201001 - 4, 40290011 - 23, 49090011 - 3, 49090021 - 3, 50190002 - 10, 50290002 - 10, 50390002 - 6 and 50390010
Organic solvents	30800108 - 10, 30800703, 31303502, 31401560 - 3, 31502001 - 3, 31612001 – 31613001, 33000297, 40100101 - 40188898, 40700401 – 49099999
Surface coating	40200101 - 40299999, not 40201001 – 4 and 40290011 - 23 (see "In process fuel").
Petroleum storage	40300101 - 40400498
Printing/publishing	40500101 - 40588805
Solid waste disposal	50100101 - 50390010
Other	All remaining SCCs between 10100101 and 68582599 inclusive.
Not classified	SCCs < 10100101 or > 68582599

Table 5: Point Source Growth Factors

Type of process	Pollutant	Growth factors	
		2007	2012
EGU	NO _x	1.144	1.234
	VOC	1.144	1.234
Non-EGU, combustion	NO _x	EGAS	EGAS
	VOC	EGAS	EGAS
Non-EGU, non-combustion	NO _x	1.027	1.044
	VOC	1.159	1.258

Table 6: Point Source EGAS Growth Factors

Source Classification Code	Growth factors		Source Classification Code	Growth factors	
	2007	2012		2007	2012
10200104	1.034	1.033	20300101	1.005	0.989
10200205	1.034	1.033	20300201	1.021	1.039
10200401	1.069	1.098	20300909	1.066	1.096
10200404	1.069	1.098	20301001	1.055	1.082
10200501	1.153	1.216	20400302	0.962	1.136
10200502	1.153	1.216	20400401	0.962	1.136
10200503	1.153	1.216	20400402	0.962	1.136
10200504	1.153	1.216	30290003	0.981	0.999
10200601	1.100	1.130	30390003	1.008	0.990
10200602	1.100	1.130	30490003	1.084	1.148
10200603	1.100	1.130	30490031	1.164	1.262
10200701	1.242	1.252	30500206	1.374	1.463
10200799	1.100	1.132	30500207	1.115	1.182
10200903	1.174	1.269	30500208	0.000	0.000
10200906	1.174	1.269	30590003	1.011	1.048
10200911	1.174	1.269	30600105	1.374	1.463
10201002	1.075	1.132	30790013	0.912	0.869
10201301	1.174	1.269	30890003	1.084	1.148
10201302	1.163	1.186	30990003	1.167	1.301
10201402	1.100	1.132	31000404	1.011	1.048
10300501	1.005	0.989	31390003	1.167	1.301
10300601	1.021	1.039	39000501	0.000	0.000
10300602	1.021	1.039	39000589	1.153	1.216
10300603	1.021	1.039	39000599	1.153	1.216
10300701	1.141	1.199	39000602	0.808	0.739
10301002	1.055	1.082	39000603	1.084	1.148
10301302	1.018	1.014	39000605	1.008	0.990
10500106	1.100	1.130	39000689	1.100	1.130
10500110	1.075	1.132	39000699	1.100	1.130
10500206	1.021	1.039	39001089	1.075	1.132
10500209	1.141	1.199	39001099	1.075	1.132
20200102	1.153	1.216	39990003	1.084	1.148
20200202	1.100	1.130	39990004	1.108	1.188
20200301	1.185	1.263	40201001	1.100	1.130
20200401	1.153	1.216	40290023	1.100	1.130
20201001	1.075	1.132	49090013	1.100	1.130

Table 7: 2007 and 2012 Point Source NOx Control Factors from Chapter NR 428

Facility id	Facility name	County	Device id	Device type	NOx control factor
230006260	WIS ELECTRIC POWER PLEASANT PRAIRIE STATION	KENOSHA	B20	BOILER	0.340
230006260	WIS ELECTRIC POWER PLEASANT PRAIRIE STATION	KENOSHA	B21	BOILER	0.340
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P01	IC ENGINE	0.366
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P02	IC ENGINE	0.430
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P03	IC ENGINE	0.392
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P04	IC ENGINE	0.477
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20a	BOILER	0.762
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20b	BOILER	0.762
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20c	BOILER	0.300
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20d	BOILER	0.300
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B25	BOILER	1.105
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B26	BOILER	1.105
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B27	BOILER	0.231
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B28	BOILER	0.231
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B21	BOILER	0.425
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B22	BOILER	0.425
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B23	BOILER	0.443
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B24	BOILER	0.443
241019900	WIS DOA / UW-MILWAUKEE POWER PLANT	MILWAUKEE	B23	BOILER	0.300
241023640	WISCONSIN PAPERBOARD CORP	MILWAUKEE	B23	BOILER	0.643
241023750	PFISTER & VOGEL LEATHER	MILWAUKEE	B20	BOILER	0.300
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B21	BOILER	0.250
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B22	BOILER	0.250
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B23	BOILER	0.250
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B21	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B22	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B23	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B24	BOILER	0.042
246044700	Charter Steel	OZAUKEE	P10	FURNACE	1.333
252005930	BALL-FOSTER GLASS CONTAINER CO., L.L.C.	RACINE	P30	FURNACE	0.650
252005930	BALL-FOSTER GLASS CONTAINER CO., L.L.C.	RACINE	P31	FURNACE	0.200
252011540	CASE CORPORATION – RACINE FOUNDRY PLANT	RACINE	B20	BOILER	0.300
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P30	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P31	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P32	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P33	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P34	TURBINE GENERATOR	0.800

Table 7: 2007 and 2012 Point Source NOx Control Factors from Chapter NR 428 (cont.)

Facility id	Facility name	County	Device id	Device type	NOx control factor
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P35	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P36	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P37	TURBINE GENERATOR	0.800
436034390	ROCKWELL LIME COMPANY	MANITOWOC	P36	KILN	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B25	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B26	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B27	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B28	BOILER	0.346
460032870	KOHLER CO-METALS PROCESSING COMPLEX	SHEBOYGAN	B10	BOILER	0.300
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B23	BOILER	0.674
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B24	BOILER	0.733
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B25	BOILER	1.042
460040460	ANR PIPELINE CO.(KEWASKUM COMP. STATION)	SHEBOYGAN	P06	IC ENGINE	2.196

Table 8: Area Source Growth Factors and Control Factors

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors			Overall control efficiencies	
					(%/year)	2007	2012	2007	2012
Aircraft refueling	2275900000	VOC	ten counties*	EGAS	-	1.304	1.440	0	0
Asphalt paving	2461020000	VOC	ten counties*	LIN_MILES	-	1.046	1.076	0	0
Asphalt plants	2306010000	NOx/VOC	ten counties*	LIN_MILES	-	1.046	1.076	0	0
Bakeries	2302050000	VOC	ten counties*	EGAS	-	1.160	1.244	0	0
Commercial and consumer solvents	2460000000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Degreasing	2415000000	VOC	ten counties*	EGAS	-	1.209	1.335	0	0
Dry cleaning	2420000000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Forest wildfires	2810001000	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Fuel combustion - commercial/institutional - distillate oil	2103004000	NOx/VOC	ten counties*	EGAS	-	1.005	0.989	0	0
Fuel combustion - commercial/institutional - kerosene	2103011000	NOx/VOC	ten counties*	EGAS	-	1.066	1.096	0	0
Fuel combustion - commercial/institutional - LPG	2103007000	NOx/VOC	ten counties*	EGAS	-	1.055	1.082	0	0
Fuel combustion - commercial/institutional - natural gas	2103006000	NOx/VOC	ten counties*	EGAS	-	1.021	1.039	0	0
Fuel combustion - commercial/institutional - residual oil	2103005000	NOx/VOC	ten counties*	EGAS	-	1.112	1.155	0	0
Fuel combustion - commercial/institutional - wood	2103008000	NOx/VOC	ten counties*	EGAS	-	1.141	1.199	0	0
Fuel combustion - industrial - bituminous/subbituminous coal	2102002000	NOx/VOC	ten counties*	EGAS	-	1.034	1.033	0	0
Fuel combustion - industrial - distillate oil	2102004000	NOx/VOC	ten counties*	EGAS	-	1.153	1.216	0	0
Fuel combustion - industrial - kerosene	2102011000	NOx/VOC	ten counties*	EGAS	-	1.163	1.186	0	0
Fuel combustion - industrial - LPG	2102007000	NOx/VOC	ten counties*	EGAS	-	1.075	1.132	0	0
Fuel combustion - industrial - natural gas	2102006000	NOx/VOC	ten counties*	EGAS	-	1.100	1.130	0	0

Table 8: Area Source Growth Factors and Control Factors (cont.)

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors			Overall control efficiencies	
					(%/year)	2007	2012	2007	2012
Fuel combustion - industrial - wood	2102008000	NOx/VOC	ten counties*	EGAS	-	1.174	1.269	0	0
Fuel combustion - residential - anthracite coal	2104001000	NOx/VOC	ten counties*	EGAS	-	0.908	0.869	0	0
Fuel combustion - residential - distillate oil	2104004000	NOx/VOC	ten counties*	EGAS	-	0.778	0.708	0	0
Fuel combustion - residential - kerosene	2104011000	NOx/VOC	ten counties*	EGAS	-	0.973	0.971	0	0
Fuel combustion - residential - LPG	2104007000	NOx/VOC	ten counties*	EGAS	-	1.059	1.044	0	0
Fuel combustion - residential - natural gas	2104006000	NOx/VOC	ten counties*	EGAS	-	0.976	0.982	0	0
Fuel combustion - residential - wood	2104008000	NOx/VOC	ten counties*	EGAS	-	1.010	1.025	0	0
Gasoline storage and transport - stage 1	2501060050	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0
Gasoline storage and transport - stage 2	2501060100	VOC	three counties**	GAS/STG2	-	0.629	0.410	-	-
Gasoline storage and transport - stage 2	2501060100	VOC	six counties***	GAS/STG2	-	0.560	0.386	-	-
Gasoline storage and transport - stage 2	2501060100	VOC	Door	GAS/STG2	-	0.535	0.269	-	-
Gasoline storage and transport - tank trucks	2505030120	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0
Gasoline storage and transport - underground tank breathing	2501060201	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0
Graphic arts solvents	2425000000	VOC	ten counties*	POP	-	1.045	1.066	0	0
IWTFs	2630010000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
MSWLs	2620030000	NOx/VOC	ten counties*	POP	-	1.045	1.066	0	0
On-site incineration	2601000000	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Open burning - land clearing	2610000500	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Open burning - residential MSW	2610030000	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Open burning - yard waste - brush species unspecified	2610000400	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Open burning - yard waste - leaf species unspecified	2610000100	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Pesticide application	2461850000	VOC	ten counties*	-	-	1.000	1.000	0	0
POTWs	2630020000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Rock crushers	2305000000	NOx/VOC	ten counties*	LIN_MILES	-	1.046	1.076	0	0
Structure fires	2810030000	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Surface coating - architectural coatings	2401001000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Surface coating - automobile refinishing	2401005000	VOC	six counties***	VMT	-	1.145	1.217	0	0
Surface coating - automobile refinishing	2401005000	VOC	Sheboygan	VMT	-	1.158	1.253	0	0
Surface coating - automobile refinishing	2401005000	VOC	Manitowoc	VMT	-	1.176	1.242	0	0
Surface coating - automobile refinishing	2401005000	VOC	Kewaunee	VMT	-	1.102	1.185	0	0
Surface coating - automobile refinishing	2401005000	VOC	Door	VMT	-	1.119	1.180	0	0
Surface coating - electronic and other electrical	2401065000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - factory finished wood	2401015000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - industrial maintenance coatings	2401100000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Surface coating - large appliances	2401060000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - machinery and equipment	2401055000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - marine	2401080000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - metal cans	2401040000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - metal furniture	2401025000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
Surface coating - misc. finished metals	2401050000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0

Table 8: Area Source Growth Factors and Control Factors (cont.)

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors			Overall control efficiencies	
					(%/year)	2007	2012	2007	2012
Surface coating - misc. manufacturing coatings	2401090000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Surface coating - railroad	2401085000	VOC	ten counties*	-	-	1.000	1.000	0	0
Surface coating - special purpose coatings	2401200000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Surface coating - traffic markings	2401008000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Surface coating - wood furniture	2401020000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0	0
TSDFs	2640000000	VOC	ten counties*	-	-	1.000	1.000	0	0
* Door, Kewaunee, Manitowoc, Sheboygan, Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties									
** Kewaunee, Manitowoc and Sheboygan counties.									
*** Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties.									
Growth factor sources									
EGAS: Economic Growth Analysis System.									
GAS: Projected statewide gas sales growth.									
GAS/STG2: The growth and control factors are combined into a single number using projected gasoline sales and projected emission factors .									
IND_EMP: Statewide industrial employment.									
LIN_MILES: Linear miles growth.									
POP: Population growth for the ten county area.									
VMT: Vehicle miles traveled.									

Table 9: Aircraft, Commercial Marine and Locomotive Growth Factors

Non-road category	SCC	2007 GF	2012 GF
Aircraft	2275000000	1.442	1.593
Commercial Marine	2280000000	1.000	1.000
Locomotive	2285002000	0.852	0.938

Table 10: NOx Point Source Emissions

NOx Emissions (All emission are in tons per ozone season day.)																								
Group	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six Counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
Boilers / Engines	-	0.001	0.001	0.001	-	0.027	0.030	0.031	-	2.686	2.356	2.524	-	47.245	24.612	26.543	-	116.709	97.651	105.189	-	166.668	124.650	134.288
Chemical Mfg	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.006	0.006	-	0.000	0.000	0.000	-	0.006	0.006	0.006
Food & Ag	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.004	0.004	0.004	-	0.000	0.000	0.000	-	0.041	0.041	0.043	-	0.045	0.045	0.047
In Process Fuel	-	0.006	0.006	0.007	-	0.007	0.007	0.007	-	0.171	0.180	0.188	-	0.376	0.351	0.362	-	2.139	2.296	2.365	-	2.699	2.840	2.929
Mineral Products	-	0.006	0.006	0.006	-	0.005	0.005	0.005	-	0.479	0.492	0.500	-	0.018	0.018	0.019	-	1.210	1.243	1.265	-	1.718	1.764	1.795
Not Classified	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Organic Solvents	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Other	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.023	0.023	0.024	-	0.000	0.000	0.000	-	0.103	0.105	0.107	-	0.126	0.128	0.131
Petroleum Storage	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Primary Metals	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.001	0.001	0.001	-	0.000	0.000	0.000	-	0.004	0.004	0.004	-	0.005	0.005	0.005
Printing / Publishing	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.008	0.009	0.009	-	0.008	0.009	0.009
Secondary Metals	-	0.002	0.003	0.003	-	0.000	0.000	0.000	-	0.019	0.019	0.020	-	0.000	0.000	0.000	-	0.594	0.611	0.620	-	0.615	0.633	0.643
Solid Waste Disposal	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.007	0.007	0.008	-	0.000	0.000	0.000	-	0.039	0.039	0.040	-	0.046	0.046	0.048
Surface Coating	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.006	0.006	-	0.006	0.006	0.006
Totals	0.00	0.02	0.02	0.02	0.03	0.04	0.04	0.04	3.20	3.39	3.08	3.27	56.35	47.65	24.99	26.93	130.51	120.85	102.01	109.65	190.09	171.94	130.13	139.91

Table 11: VOC Point Source Emissions

VOC Emissions (All emission are in tons per ozone season day.)																								
Group	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six Counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
Boilers / Engines	-	0.000	0.000	0.000	-	0.002	0.002	0.002	-	0.041	0.046	0.049	-	0.267	0.297	0.324	-	1.205	1.355	1.464	-	1.515	1.700	1.839
Chemical Mfg	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.011	0.012	0.013	-	0.022	0.026	0.028	-	2.143	2.484	2.695	-	2.176	2.522	2.736
Food & Ag	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.112	0.129	0.140	-	0.000	0.000	0.000	-	1.280	1.485	1.610	-	1.392	1.614	1.750
In Process Fuel	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.007	0.007	-	0.015	0.016	0.017	-	0.184	0.200	0.207	-	0.205	0.223	0.231
Mineral Products	-	0.000	0.000	0.000	-	0.004	0.005	0.005	-	0.011	0.012	0.013	-	0.016	0.019	0.021	-	0.204	0.236	0.256	-	0.235	0.272	0.295
Not Classified	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Organic Solvents	-	0.000	0.000	0.000	-	0.013	0.016	0.017	-	0.337	0.391	0.424	-	0.074	0.086	0.093	-	1.223	1.418	1.538	-	1.647	1.911	2.072
Other	-	0.000	0.000	0.000	-	0.012	0.014	0.015	-	0.120	0.139	0.151	-	0.282	0.326	0.354	-	1.349	1.563	1.698	-	1.763	2.042	2.218
Petroleum Storage	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.296	0.343	0.372	-	0.296	0.343	0.372
Primary Metals	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.058	0.068	0.073	-	0.000	0.000	0.000	-	0.091	0.107	0.116	-	0.149	0.175	0.189
Printing / Publishing	-	0.000	0.000	0.000	-	0.095	0.110	0.120	-	0.033	0.039	0.042	-	0.097	0.113	0.122	-	2.104	2.440	2.646	-	2.329	2.702	2.930
Secondary Metals	-	0.004	0.004	0.005	-	0.000	0.000	0.000	-	0.201	0.233	0.253	-	0.464	0.538	0.584	-	1.748	2.027	2.199	-	2.417	2.802	3.041
Solid Waste Disposal	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.002	0.002	0.002	-	0.000	0.000	0.000	-	0.075	0.087	0.094	-	0.077	0.089	0.096
Surface Coating	-	0.139	0.161	0.175	-	0.461	0.534	0.580	-	0.992	1.149	1.247	-	1.686	1.954	2.121	-	7.921	9.180	9.964	-	11.199	12.978	14.087
Totals	0.00	0.14	0.17	0.18	0.86	0.59	0.68	0.74	1.16	1.92	2.23	2.41	6.74	2.92	3.38	3.66	40.38	19.82	22.93	24.86	49.14	25.40	29.37	31.86

Table 12: Area Source NOx Emissions (tons per ozone season day)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2102002000	0.040	0.065	0.067	0.067	0.021	0.065	0.067	0.067	0.143	0.392	0.406	0.405	0.208	0.813	0.841	0.840	2.561	6.541	6.479	6.754	2.973	7.876	7.860	8.133
2102004000	0.014	0.009	0.011	0.011	0.007	0.009	0.011	0.011	0.045	0.053	0.061	0.064	0.090	0.111	0.128	0.135	0.775	0.853	0.964	1.037	0.931	1.036	1.174	1.259
2102005000	0.006	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.367	0.000	0.018	0.000	0.429	0.000	0.018	0.000
2102006000	0.258	0.051	0.056	0.058	0.067	0.023	0.025	0.026	0.797	0.170	0.187	0.192	1.096	0.464	0.511	0.524	12.878	4.350	5.158	4.914	15.096	5.058	5.937	5.714
2102007000	0.006	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.021	0.016	0.018	0.018	0.038	0.031	0.033	0.035	0.346	0.260	0.280	0.294	0.415	0.313	0.336	0.354
2102008000	0.010	0.002	0.002	0.003	0.004	0.002	0.002	0.002	0.034	0.012	0.014	0.015	0.061	0.024	0.029	0.031	0.613	0.201	0.255	0.255	0.722	0.241	0.302	0.306
2102011000	0.061	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.227	0.000	0.000	0.000	0.406	0.000	0.000	0.000	3.911	0.003	0.212	0.003	4.636	0.003	0.213	0.004
2103002000	0.009	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.683	0.000	0.035	0.000	0.745	0.000	0.035	0.000
2103004000	0.008	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.018	0.010	0.010	0.010	0.027	0.016	0.016	0.016	0.609	0.357	0.370	0.353	0.665	0.391	0.404	0.386
2103005000	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.053	0.039	0.044	0.045	0.058	0.043	0.048	0.049
2103006000	0.031	0.106	0.108	0.110	0.013	0.038	0.039	0.040	0.073	0.216	0.220	0.224	0.107	0.341	0.348	0.355	2.448	7.442	7.338	7.736	2.672	8.143	8.054	8.464
2103007000	0.003	0.003	0.003	0.003	0.001	0.001	0.001	0.001	0.006	0.006	0.007	0.007	0.009	0.010	0.011	0.011	0.208	0.231	0.241	0.249	0.227	0.252	0.263	0.272
2103008000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.031	0.000	0.002	0.000	0.034	0.000	0.002	0.000
2103011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.002	0.002	0.002	0.005	0.002	0.002	0.002
2104001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.008	0.008	0.006	0.007	0.009	0.009	0.007	0.008
2104004000	0.008	0.005	0.004	0.003	0.005	0.003	0.003	0.002	0.024	0.014	0.011	0.010	0.030	0.019	0.015	0.014	0.508	0.318	0.257	0.225	0.575	0.361	0.289	0.255
2104006000	0.024	0.025	0.025	0.025	0.016	0.018	0.018	0.018	0.073	0.076	0.074	0.075	0.094	0.103	0.100	0.101	1.577	1.680	1.619	1.649	1.785	1.903	1.836	1.868
2104007000	0.005	0.006	0.006	0.006	0.004	0.004	0.005	0.004	0.015	0.018	0.019	0.018	0.020	0.024	0.025	0.025	0.332	0.392	0.407	0.409	0.376	0.444	0.462	0.463
2104008000	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.012	0.012	0.012	0.012	0.023	0.023	0.023	0.024
2104011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.007	0.006	0.007	0.005	0.008	0.007	0.008
2305000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2306010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2601000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230	0.000	0.030	0.000	0.230	0.000	0.030	0.000
2610000100	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007
2610000400	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007
2610000500	0.026	0.026	0.026	0.026	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.006	0.006	0.006	0.006	0.067	0.067	0.067	0.067	0.102	0.102	0.102	0.102
2610030000	0.024	0.037	0.037	0.037	0.012	0.028	0.028	0.028	0.036	0.069	0.069	0.069	0.048	0.080	0.080	0.080	0.252	0.291	0.295	0.291	0.372	0.506	0.509	0.506
2620030000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.447	0.340	0.477	0.000	0.448	0.340	0.477
2810001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2810030000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.006	0.006	0.006	0.015	0.007	0.007	0.007
Totals	0.54	0.35	0.36	0.36	0.20	0.20	0.21	0.21	1.57	1.06	1.11	1.12	2.31	2.05	2.15	2.18	28.50	23.52	24.45	24.80	33.11	27.18	28.28	28.67

Table 13: Area Source VOC Emissions (tons per ozone season day)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2102002000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.005	0.014	0.014	0.014	0.006	0.017	0.017	0.017
2102004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.008	0.009	0.010	0.010	0.010	0.010	0.012	0.013
2102005000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.000
2102006000	0.005	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.016	0.003	0.004	0.004	0.021	0.009	0.010	0.010	0.253	0.085	0.094	0.097	0.297	0.099	0.109	0.112
2102007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.003	0.004	0.004	0.005	0.004	0.004	0.005
2102008000	0.009	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.032	0.002	0.002	0.002	0.057	0.004	0.004	0.005	0.572	0.029	0.035	0.037	0.674	0.035	0.041	0.045
2102011000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.033	0.000	0.000	0.000	0.039	0.000	0.000	0.000
2103002000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000
2103004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.006	0.006	0.006	0.011	0.007	0.007	0.007
2103005000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
2103006000	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.006	0.007	0.007	0.007	0.130	0.146	0.149	0.152	0.142	0.160	0.163	0.166
2103007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.008	0.008	0.008	0.007	0.008	0.009	0.009
2103008000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.031	0.000	0.000	0.000
2103011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2104001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2104004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.020	0.013	0.010	0.009	0.023	0.014	0.011	0.010
2104006000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.006	0.006	0.006	0.006	0.092	0.098	0.096	0.097	0.104	0.111	0.109	0.109
2104007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.011	0.013	0.014	0.014	0.013	0.015	0.016	0.016
2104008000	0.267	0.270	0.273	0.277	0.136	0.137	0.138	0.140	0.335	0.338	0.342	0.347	0.254	0.257	0.268	0.274	1.034	1.044	1.054	1.070	2.027	2.045	2.075	2.107
2104011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2275900000	0.001	0.003	0.003	0.004	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.004	0.005	0.005	0.039	0.032	0.042	0.046	0.042	0.038	0.050	0.055
2302050000	0.012	0.013	0.015	0.017	0.009	0.010	0.011	0.012	0.039	0.040	0.046	0.049	0.050	0.054	0.062	0.067	0.832	0.808	0.937	1.004	0.942	0.924	1.072	1.149
2305000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2306010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2401001000	0.145	0.138	0.145	0.148	0.107	0.100	0.105	0.107	0.455	0.413	0.431	0.440	0.588	0.558	0.583	0.595	9.820	9.131	9.542	9.734	11.115	10.341	10.806	11.024
2401005000	0.000	0.041	0.046	0.048	0.000	0.013	0.015	0.016	1.265	0.173	0.203	0.215	0.470	0.178	0.206	0.223	9.936	4.963	6.351	6.042	11.670	5.368	6.821	6.543
2401008000	0.047	0.017	0.018	0.019	0.035	0.013	0.013	0.013	0.148	0.052	0.054	0.055	0.191	0.070	0.073	0.075	3.197	1.148	1.200	1.224	3.618	1.300	1.359	1.386
2401015000	0.000	0.000	0.000	0.000	0.100	0.056	0.054	0.053	0.060	0.021	0.021	0.020	0.100	0.031	0.030	0.029	0.830	0.127	0.123	0.120	1.090	0.235	0.228	0.223
2401020000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.220	0.085	0.082	0.081	0.740	0.168	0.163	0.159	1.170	0.181	0.176	0.172	2.130	0.434	0.421	0.413
2401025000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.003	0.003	0.002	0.030	0.005	0.005	0.005	0.000	0.006	0.005	0.005	0.060	0.013	0.013	0.013
2401040000	0.000	0.014	0.014	0.014	0.000	0.010	0.010	0.010	0.000	0.134	0.130	0.127	0.000	0.144	0.140	0.137	3.860	1.136	1.102	1.080	3.860	1.440	1.396	1.369
2401050000	0.190	0.064	0.062	0.061	0.080	0.046	0.045	0.044	1.170	0.594	0.576	0.565	1.460	0.641	0.621	0.609	11.880	5.043	4.890	4.794	14.780	6.389	6.195	6.073
2401055000	0.030	0.043	0.041	0.041	0.020	0.028	0.027	0.027	0.310	0.256	0.248	0.244	0.240	0.282	0.274	0.268	5.980	3.933	3.814	3.739	6.580	4.543	4.404	4.318
2401060000	0.000	0.015	0.014	0.014	0.000	0.000	0.000	0.000	0.050	0.015	0.015	0.014	0.000	0.015	0.014	0.014	1.200	0.411	0.398	0.390	1.250	0.455	0.441	0.433

2401065000	0.150	0.115	0.112	0.110	0.000	0.000	0.000	0.000	0.250	0.117	0.113	0.111	0.710	0.115	0.112	0.110	7.970	2.929	2.840	2.784	9.080	3.276	3.177	3.115
2401080000	0.740	0.267	0.259	0.254	0.000	0.000	0.000	0.000	0.090	0.006	0.006	0.006	0.000	0.013	0.012	0.012	0.000	0.321	0.311	0.305	0.830	0.607	0.588	0.577
2401085000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.400	0.057	0.057	0.057	0.400	0.060	0.060	0.060
2401090000	0.030	0.032	0.033	0.034	0.020	0.023	0.024	0.025	0.090	0.095	0.100	0.102	0.120	0.129	0.135	0.137	2.000	2.110	2.205	2.249	2.260	2.390	2.497	2.547
2401100000	0.040	0.034	0.036	0.036	0.030	0.025	0.026	0.026	0.120	0.102	0.106	0.108	0.160	0.138	0.144	0.147	2.680	2.251	2.352	2.399	3.030	2.549	2.664	2.717
2401200000	0.040	0.034	0.036	0.036	0.030	0.025	0.026	0.026	0.120	0.102	0.106	0.108	0.160	0.138	0.144	0.147	2.680	2.251	2.352	2.399	3.030	2.549	2.664	2.717
2415000000	0.250	0.245	0.296	0.327	0.060	0.077	0.093	0.102	0.850	0.764	0.923	1.020	0.710	0.983	1.188	1.313	15.000	16.969	20.510	22.661	16.870	19.037	23.010	25.423
2420000000	0.050	0.031	0.032	0.033	0.040	0.000	0.000	0.000	0.170	0.000	0.000	0.000	0.220	0.184	0.193	0.197	3.610	6.421	6.710	6.845	4.090	6.636	6.935	7.075
2425000000	0.050	0.024	0.025	0.026	0.040	0.018	0.018	0.019	0.170	0.073	0.076	0.077	0.220	0.098	0.103	0.105	3.640	1.607	1.679	1.713	4.120	1.820	1.901	1.940
2460000000	0.274	0.238	0.249	0.254	0.199	0.172	0.180	0.184	0.859	0.710	0.742	0.757	1.120	0.960	1.003	1.024	18.642	15.712	16.419	16.750	21.093	17.793	18.594	18.969
2461020000	2.370	0.280	0.293	0.302	0.030	0.018	0.019	0.020	0.280	0.347	0.363	0.373	0.000	0.465	0.487	0.501	0.270	1.732	1.812	1.864	2.950	2.842	2.974	3.059

Table 13: Area Source VOC Emissions (tons per ozone season day) (cont.)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2461850000	0.270	0.152	0.152	0.152	0.470	0.225	0.225	0.225	0.910	0.426	0.426	0.426	0.960	0.377	0.377	0.377	3.010	1.495	1.495	1.495	5.620	2.675	2.675	2.675
2501060050	0.370	0.065	0.073	0.077	0.180	0.041	0.045	0.048	0.140	0.170	0.190	0.203	0.150	0.215	0.225	0.231	3.190	3.173	3.554	3.792	4.030	3.663	4.086	4.352
2501060100	0.270	0.170	0.091	0.215	0.130	0.031	0.020	0.013	0.480	0.131	0.083	0.054	0.480	0.166	0.104	0.068	10.570	2.242	1.255	0.865	11.930	2.740	1.553	1.215
2501060201	0.030	0.011	0.013	0.014	0.010	0.007	0.008	0.008	0.050	0.030	0.033	0.035	0.050	0.037	0.042	0.045	1.090	0.553	0.620	0.661	1.230	0.639	0.716	0.764
2505030120	0.000	0.002	0.002	0.002	0.000	0.001	0.001	0.001	0.010	0.005	0.006	0.006	0.010	0.006	0.007	0.008	0.190	0.094	0.105	0.112	0.210	0.108	0.121	0.129
2601000000	0.050	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.160	0.000	0.000	0.000	0.240	0.000	0.000	0.000	3.160	0.000	0.000	0.000	3.640	0.000	0.000	0.000
2610000100	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.031	0.031	0.031	0.031	0.050	0.050	0.050	0.050
2610000400	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.021	0.021	0.021	0.021	0.034	0.034	0.034	0.034
2610000500	0.059	0.059	0.059	0.059	0.002	0.002	0.002	0.002	0.007	0.007	0.007	0.007	0.013	0.013	0.013	0.013	0.154	0.154	0.154	0.154	0.235	0.235	0.235	0.235
2610030000	0.095	0.185	0.185	0.185	0.079	0.141	0.141	0.141	0.189	0.344	0.344	0.344	0.221	0.402	0.402	0.402	1.168	1.457	1.457	1.457	1.753	2.528	2.528	2.528
2620030000	0.010	0.003	0.003	0.003	0.010	0.002	0.002	0.002	0.030	0.001	0.001	0.001	0.020	0.002	0.002	0.002	0.320	0.048	0.050	0.051	0.390	0.055	0.057	0.058
2630010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.013	0.012	0.012	0.418	0.673	0.652	0.639	0.420	0.686	0.665	0.652
2630020000	0.042	0.023	0.024	0.025	0.028	0.017	0.018	0.018	0.266	0.697	0.728	0.743	0.294	0.033	0.035	0.036	4.788	3.643	3.807	3.884	5.418	4.414	4.613	4.706
2640000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.115	0.115	0.115	0.055	0.115	0.115	0.115
2810001000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.000
2810030000	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.114	0.048	0.048	0.048	0.119	0.055	0.055	0.055
Totals	5.92	2.61	2.62	2.80	1.90	1.25	1.28	1.29	9.40	6.28	6.53	6.67	10.09	6.94	7.23	7.39	136.13	94.50	100.69	103.23	163.44	111.56	118.35	121.38

Table 14: Non-Road Emissions (tons per ozone season day)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Door	2275000000	Aircraft	0.010	0.030	0.006	0.010	0.008	0.014	0.008	0.015
Door	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2282000000	Recreational Marine	0.263	3.650	0.282	3.915	0.319	3.643	0.342	3.466
Door	2285002000	Locomotives	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2260001000	Recreational Equipment	0.000	0.012	0.000	0.011	0.000	0.008	0.000	0.007
Door	2260002000	Construction and Mining Equipment	0.000	0.003	0.000	0.002	0.000	0.001	0.000	0.000
Door	2260003000	Industrial Equipment	0.021	0.010	0.015	0.007	0.010	0.004	0.006	0.003
Door	2260004000	Lawn and Garden Equipment	0.000	0.140	0.000	0.135	0.000	0.052	0.000	0.023
Door	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2260006000	Commercial Equipment	0.000	0.015	0.000	0.017	0.000	0.007	0.000	0.003
Door	2260007000	Logging Equipment	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.000
Door	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2265001000	Recreational Equipment	0.000	0.007	0.000	0.007	0.000	0.005	0.000	0.005
Door	2265002000	Construction and Mining Equipment	0.000	0.004	0.000	0.003	0.000	0.002	0.000	0.001
Door	2265003000	Industrial Equipment	0.007	0.018	0.005	0.013	0.003	0.008	0.002	0.005
Door	2265004000	Lawn and Garden Equipment	0.002	0.143	0.004	0.139	0.006	0.060	0.006	0.031
Door	2265005000	Agricultural Equipment	0.000	0.005	0.000	0.005	0.000	0.003	0.000	0.002
Door	2265006000	Commercial Equipment	0.000	0.027	0.001	0.030	0.002	0.013	0.002	0.006
Door	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2265008000	Airport Ground Support Equipment	0.001	0.002	0.001	0.003	0.001	0.003	0.001	0.003
Door	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2270002000	Construction and Mining Equipment	0.261	0.031	0.327	0.043	0.323	0.053	0.325	0.059
Door	2270003000	Industrial Equipment	0.044	0.005	0.057	0.007	0.057	0.009	0.058	0.010
Door	2270004000	Lawn and Garden Equipment	0.002	0.000	0.003	0.000	0.004	0.000	0.005	0.000
Door	2270005000	Agricultural Equipment	0.185	0.037	0.223	0.048	0.213	0.058	0.212	0.064
Door	2270006000	Commercial Equipment	0.004	0.000	0.007	0.001	0.009	0.001	0.010	0.001
Door	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2270008000	Airport Ground Support Equipment	0.044	0.005	0.084	0.011	0.097	0.015	0.104	0.019
Kewaunee	2275000000	Aircraft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2282000000	Recreational Marine	0.026	0.411	0.028	0.440	0.033	0.387	0.036	0.352
Kewaunee	2285002000	Locomotives	0.030	0.010	0.018	0.001	0.016	0.001	0.018	0.001
Kewaunee	2260001000	Recreational Equipment	0.000	0.009	0.000	0.008	0.000	0.006	0.000	0.005
Kewaunee	2260002000	Construction and Mining Equipment	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.000
Kewaunee	2260003000	Industrial Equipment	0.016	0.007	0.011	0.005	0.007	0.003	0.005	0.002
Kewaunee	2260004000	Lawn and Garden Equipment	0.000	0.103	0.000	0.100	0.000	0.039	0.000	0.017
Kewaunee	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2260006000	Commercial Equipment	0.000	0.011	0.000	0.013	0.000	0.005	0.000	0.002
Kewaunee	2260007000	Logging Equipment	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.000
Kewaunee	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2265001000	Recreational Equipment	0.000	0.005	0.000	0.005	0.000	0.004	0.000	0.004
Kewaunee	2265002000	Construction and Mining Equipment	0.000	0.003	0.000	0.002	0.000	0.001	0.000	0.001
Kewaunee	2265003000	Industrial Equipment	0.005	0.013	0.003	0.009	0.002	0.006	0.001	0.004
Kewaunee	2265004000	Lawn and Garden Equipment	0.001	0.105	0.003	0.102	0.004	0.044	0.004	0.023
Kewaunee	2265005000	Agricultural Equipment	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001
Kewaunee	2265006000	Commercial Equipment	0.000	0.020	0.001	0.022	0.001	0.009	0.001	0.004
Kewaunee	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2265008000	Airport Ground Support Equipment	0.001	0.002	0.001	0.002	0.001	0.002	0.001	0.002
Kewaunee	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2270002000	Construction and Mining Equipment	0.192	0.023	0.241	0.031	0.237	0.039	0.239	0.043
Kewaunee	2270003000	Industrial Equipment	0.033	0.004	0.042	0.005	0.042	0.006	0.043	0.007
Kewaunee	2270004000	Lawn and Garden Equipment	0.001	0.000	0.002	0.000	0.003	0.000	0.004	0.000
Kewaunee	2270005000	Agricultural Equipment	0.136	0.027	0.164	0.035	0.157	0.043	0.156	0.047
Kewaunee	2270006000	Commercial Equipment	0.003	0.000	0.005	0.000	0.006	0.001	0.007	0.001

Table 14: Non-Road Emissions (tons per ozone season day) (cont.)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Kewaunee	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2270008000	Airport Ground Support Equipment	0.033	0.004	0.062	0.008	0.071	0.011	0.076	0.014
Manitowoc	2275000000	Aircraft	0.000	0.010	0.000	0.000	0.000	0.001	0.000	0.001
Manitowoc	2280000000	Commercial Marine	0.000	0.000	0.046	0.000	0.046	0.000	0.046	0.000
Manitowoc	2282000000	Recreational Marine	0.054	0.767	0.058	0.823	0.066	0.749	0.071	0.701
Manitowoc	2285002000	Locomotives	0.070	0.020	0.089	0.003	0.079	0.003	0.087	0.003
Manitowoc	2260001000	Recreational Equipment	0.000	0.038	0.000	0.035	0.000	0.024	0.000	0.021
Manitowoc	2260002000	Construction and Mining Equipment	0.000	0.009	0.000	0.007	0.000	0.002	0.000	0.001
Manitowoc	2260003000	Industrial Equipment	0.066	0.031	0.047	0.022	0.030	0.013	0.020	0.008
Manitowoc	2260004000	Lawn and Garden Equipment	0.000	0.439	0.000	0.424	0.000	0.164	0.000	0.071
Manitowoc	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2260006000	Commercial Equipment	0.000	0.047	0.000	0.054	0.000	0.023	0.000	0.010
Manitowoc	2260007000	Logging Equipment	0.000	0.006	0.000	0.008	0.000	0.003	0.000	0.002
Manitowoc	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2265001000	Recreational Equipment	0.000	0.022	0.000	0.021	0.000	0.017	0.000	0.016
Manitowoc	2265002000	Construction and Mining Equipment	0.000	0.012	0.000	0.010	0.000	0.005	0.000	0.004
Manitowoc	2265003000	Industrial Equipment	0.021	0.057	0.015	0.040	0.010	0.025	0.006	0.016
Manitowoc	2265004000	Lawn and Garden Equipment	0.006	0.447	0.013	0.436	0.017	0.187	0.019	0.098
Manitowoc	2265005000	Agricultural Equipment	0.000	0.016	0.000	0.015	0.000	0.008	0.000	0.006
Manitowoc	2265006000	Commercial Equipment	0.001	0.084	0.003	0.095	0.005	0.040	0.006	0.018
Manitowoc	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2265008000	Airport Ground Support Equipment	0.003	0.007	0.003	0.008	0.004	0.009	0.004	0.009
Manitowoc	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2270002000	Construction and Mining Equipment	0.816	0.098	1.025	0.134	1.010	0.165	1.018	0.184
Manitowoc	2270003000	Industrial Equipment	0.139	0.016	0.179	0.022	0.179	0.027	0.181	0.031
Manitowoc	2270004000	Lawn and Garden Equipment	0.005	0.000	0.011	0.000	0.014	0.000	0.016	0.000
Manitowoc	2270005000	Agricultural Equipment	0.578	0.115	0.698	0.150	0.668	0.182	0.664	0.202
Manitowoc	2270006000	Commercial Equipment	0.013	0.001	0.021	0.002	0.027	0.003	0.031	0.003
Manitowoc	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2270008000	Airport Ground Support Equipment	0.139	0.016	0.263	0.033	0.303	0.049	0.324	0.058
Sheboygan	2275000000	Aircraft	0.000	0.020	0.008	0.014	0.010	0.018	0.011	0.020
Sheboygan	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2282000000	Recreational Marine	0.037	0.732	0.040	0.785	0.048	0.701	0.053	0.646
Sheboygan	2285002000	Locomotives	0.370	0.050	0.375	0.015	0.333	0.013	0.366	0.014
Sheboygan	2260001000	Recreational Equipment	0.000	0.080	0.000	0.074	0.000	0.049	0.000	0.041
Sheboygan	2260002000	Construction and Mining Equipment	0.000	0.010	0.000	0.008	0.000	0.003	0.000	0.001
Sheboygan	2260003000	Industrial Equipment	0.080	0.040	0.057	0.027	0.036	0.015	0.024	0.009
Sheboygan	2260004000	Lawn and Garden Equipment	0.000	0.580	0.000	0.560	0.000	0.216	0.000	0.094
Sheboygan	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2260006000	Commercial Equipment	0.000	0.010	0.000	0.011	0.000	0.005	0.000	0.002
Sheboygan	2260007000	Logging Equipment	0.000	0.020	0.000	0.025	0.000	0.011	0.000	0.005
Sheboygan	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265001000	Recreational Equipment	0.000	0.050	0.000	0.049	0.000	0.040	0.000	0.038
Sheboygan	2265002000	Construction and Mining Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265003000	Industrial Equipment	0.020	0.070	0.014	0.050	0.009	0.032	0.006	0.021
Sheboygan	2265004000	Lawn and Garden Equipment	0.000	0.390	0.000	0.382	0.000	0.168	0.000	0.092
Sheboygan	2265005000	Agricultural Equipment	0.000	0.120	0.000	0.115	0.000	0.061	0.000	0.044
Sheboygan	2265006000	Commercial Equipment	0.000	0.070	0.000	0.080	0.000	0.034	0.000	0.015
Sheboygan	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270002000	Construction and Mining Equipment	1.050	0.120	1.317	0.163	1.290	0.201	1.298	0.225
Sheboygan	2270003000	Industrial Equipment	0.270	0.030	0.347	0.042	0.342	0.052	0.345	0.059
Sheboygan	2270004000	Lawn and Garden Equipment	0.010	0.000	0.021	0.000	0.031	0.000	0.037	0.000

Table 14: Non-Road Emissions (tons per ozone season day) (cont.)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Sheboygan	2270005000	Agricultural Equipment	3.350	0.670	4.050	0.879	3.873	1.064	3.849	1.180
Sheboygan	2270006000	Commercial Equipment	0.010	0.000	0.016	0.000	0.021	0.000	0.024	0.000
Sheboygan	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2275000000	Aircraft	1.210	1.410	1.035	0.202	1.349	0.263	1.489	0.290
Six counties	2280000000	Commercial Marine	0.070	0.010	0.062	0.010	0.062	0.010	0.062	0.010
Six counties	2282000000	Recreational Marine	0.395	6.768	0.424	7.257	0.497	6.511	0.544	6.025
Six counties	2285002000	Locomotives	4.360	0.490	4.360	0.170	3.866	0.150	4.254	0.165
Six counties	2260001000	Recreational Equipment	0.000	0.780	0.000	0.724	0.000	0.497	0.000	0.432
Six counties	2260002000	Construction and Mining Equipment	0.000	0.200	0.000	0.158	0.000	0.053	0.000	0.021
Six counties	2260003000	Industrial Equipment	1.440	0.680	1.024	0.471	0.655	0.282	0.424	0.179
Six counties	2260004000	Lawn and Garden Equipment	0.000	9.470	0.000	9.138	0.000	3.535	0.000	1.529
Six counties	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2260006000	Commercial Equipment	0.000	1.070	0.000	1.219	0.000	0.515	0.000	0.232
Six counties	2260007000	Logging Equipment	0.000	0.120	0.000	0.150	0.000	0.066	0.000	0.030
Six counties	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2265001000	Recreational Equipment	0.000	0.450	0.000	0.436	0.000	0.351	0.000	0.329
Six counties	2265002000	Construction and Mining Equipment	0.000	0.280	0.000	0.235	0.000	0.121	0.000	0.087
Six counties	2265003000	Industrial Equipment	0.450	1.240	0.326	0.875	0.209	0.550	0.135	0.354
Six counties	2265004000	Lawn and Garden Equipment	0.140	9.830	0.305	9.598	0.396	4.099	0.433	2.154
Six counties	2265005000	Agricultural Equipment	0.000	0.250	0.000	0.239	0.000	0.126	0.000	0.089
Six counties	2265006000	Commercial Equipment	0.030	1.840	0.080	2.097	0.113	0.886	0.129	0.399
Six counties	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2265008000	Airport Ground Support Equipment	0.070	0.160	0.078	0.179	0.086	0.196	0.090	0.207
Six counties	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2270002000	Construction and Mining Equipment	17.610	2.130	22.121	2.893	21.800	3.570	21.990	3.994
Six counties	2270003000	Industrial Equipment	2.910	0.330	3.749	0.460	3.742	0.575	3.797	0.647
Six counties	2270004000	Lawn and Garden Equipment	0.110	0.000	0.222	0.000	0.289	0.000	0.330	0.000
Six counties	2270005000	Agricultural Equipment	9.860	1.950	11.920	2.557	11.398	3.096	11.329	3.434
Six counties	2270006000	Commercial Equipment	0.290	0.030	0.454	0.047	0.600	0.062	0.691	0.072
Six counties	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2270008000	Airport Ground Support Equipment	3.170	0.370	6.015	0.761	6.919	1.109	7.417	1.327
Totals			50.54	50.09	62.49	50.70	62.06	35.57	63.29	30.23

Table 15: Emissions Summary by Geographic Area, Year and Source Sector

	NOx					VOC				
1990	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
Six Counties	130.5	28.5	42.1	128.2	329.3	40.4	136.1	39.9	145.6	362.0
Sheboygan County	56.4	2.3	5.2	9.9	73.7	6.7	10.1	3.1	11.3	31.2
Manitowoc County	3.2	1.6	1.9	8.8	15.5	1.2	9.4	2.3	9.2	22.0
Kewaunee County	0.0	0.2	0.5	1.5	2.2	0.9	1.9	0.8	1.8	5.3
Door County	0.0	0.5	0.8	3.2	4.6	0.0	5.9	4.1	3.3	13.4
Totals	190.1	33.1	50.5	151.6	425.4	49.1	163.5	50.1	171.2	433.9
1999	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
Six Counties	120.9	23.5	52.2	110.0	306.5	19.8	94.5	39.9	56.4	210.6
Sheboygan County	47.6	2.1	6.2	8.7	64.6	2.9	6.9	3.3	4.7	17.9
Manitowoc County	3.4	1.1	2.5	7.9	14.9	1.9	6.3	2.3	4.4	14.9
Kewaunee County	0.0	0.2	0.6	1.3	2.1	0.6	1.2	0.8	0.9	3.5
Door County	0.0	0.3	1.0	2.7	4.1	0.1	2.6	4.4	1.7	8.9
Totals	171.9	27.2	62.5	130.6	392.2	25.4	111.6	50.7	68.1	255.8
2007	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
Six Counties	102.0	24.5	52.0	71.4	249.8	22.9	100.7	26.6	32.2	182.4
Sheboygan County	25.0	2.2	6.0	6.4	39.5	3.4	7.2	2.7	3.2	16.5
Manitowoc County	3.1	1.1	2.5	6.3	13.0	2.2	6.5	1.7	3.1	13.6
Kewaunee County	0.0	0.2	0.6	1.0	1.8	0.7	1.3	0.6	0.6	3.2
Door County	0.0	0.4	1.1	2.0	3.5	0.2	2.6	4.0	1.2	7.9
Totals	130.1	28.3	62.1	87.1	307.6	29.4	118.3	35.6	40.4	223.7
2012*	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
Six Counties	109.6	24.8	53.1	43.8	231.4	24.9	103.2	22.0	20.0	170.1
Sheboygan County	26.9	2.2	6.0	4.0	39.1	3.7	7.4	2.5	2.0	15.6
Manitowoc County*	3.3	1.1	2.5	4.0	10.9	2.4	6.7	1.5	2.0	12.6
Kewaunee County	0.0	0.2	0.6	0.6	1.5	0.7	1.3	0.5	0.4	3.0
Door County*	0.0	0.4	1.1	1.3	2.8	0.2	2.8	3.7	0.8	7.5
Totals	139.9	28.7	63.3	53.7	285.6	31.9	121.4	30.2	25.2	208.7

* See following Table 12A for 2013 Manitowoc County and Door County Inventories.....

As a consequence of the final US-EPA redesignation approval having to be stretched to 2003, the maintenance plans for Door and Manitowoc Counties have to include projections through 2013, a full ten year timeframe. 2013 values were grown from 2012 values using a consistent growth approach. Mobile sector emissions reflect 2013 rather than 2012 emission factors (based on MOBILE-6) and use a consistent trend in vehicle miles travel growth from that applied to the 2012 calculations.

Table 15A – Maintenance Addendum to include 2013 Inventory Projections for Door and Manitowoc Counties

	NOx					VOC				
	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
1990										
Manitowoc Co	3.20	1.57	1.91	8.81	15.49	1.16	9.40	2.26	9.16	21.98
Door Co	0.00	0.54	0.84	3.23	4.61	0.00	5.92	4.15	3.34	13.41
Totals	3.20	2.10	2.75	12.04	20.10	1.16	15.32	6.41	12.50	35.38
1999										
Manitowoc Co	3.39	1.06	2.47	7.93	14.86	1.92	6.28	2.34	4.36	14.90
Door Co	0.02	0.35	1.02	2.69	4.07	0.14	2.61	4.41	1.73	8.89
Totals	3.41	1.41	3.49	10.62	18.93	2.07	8.88	6.75	6.09	23.79
2007										
Manitowoc Co	3.08	1.11	2.46	6.33	12.98	2.23	6.53	1.70	3.12	13.58
Door Co	0.02	0.36	1.05	2.03	3.46	0.17	2.62	3.96	1.20	7.94
Totals	3.10	1.47	3.51	8.36	16.43	2.39	9.15	5.66	4.32	21.52
2012 (not for Maintenance or Conformity)										
Manitowoc Co	3.27	1.12	2.49	3.99	10.87	2.41	6.67	1.46	2.03	12.58
Door Co	0.02	0.36	1.08	1.30	2.76	0.18	2.80	3.72	0.79	7.49
Totals	3.29	1.48	3.57	5.29	13.63	2.59	9.47	5.19	2.82	20.07
2013 (Addendum for Maintenance and Conformity)										
Manitowoc Co	3.30	1.12	2.50	3.59	10.51	2.45	6.69	1.42	1.89	12.45
Door Co	0.02	0.36	1.09	1.17	2.64	0.18	2.83	3.68	0.74	7.44
Totals	3.32	1.49	3.59	4.76	13.15	2.63	9.52	5.11	2.63	19.89

Comments/Assumptions:

1. For all sectors except Mobile, assume annual growth between 2012 and 2013 is equivalent to the average annual growth between 2007 and 2012 by type of sector source.
2. 2013 mobile emissions are based on 2013 MOBILE-6 emission factors and the assumption that 2012 to 2013 VMT growth is equivalent to the average annual VMT growth between 2007 and 2012.